

CLAIMS:

1. A filter circuit comprising
 - an input (12) and an output (14) and
 - at least two resonators (16, 18), of which one resonator (16) is coupled to the input (12) and one resonator (18) is coupled to the output (14),
- 5 wherein each resonator (16, 18) has, as frequency-determining elements, a first straight microstrip section (28), a second straight microstrip section (30) and a capacitor assembly (22),
 - wherein in each resonator (16, 18) the capacitor assembly (22) is connected between in each case first ends of the microstrip sections (28, 30), and each resonator is
 - 10 exclusively connected to ground at the second ends of the microstrip sections (28, 30),
 - and wherein the first and second microstrip sections (28, 30) are arranged in parallel next to one another,
 - and wherein in each case one of the microstrip sections (30) of the resonators (16, 18) is electromagnetically coupled to at least one of the microstrip sections (30) of a
 - 15 further resonator (16, 18) by the microstrip sections (30) of the resonators being arranged in parallel next to one another and at a distance apart.
2. A filter as claimed in claim 1, in which the capacitor assembly (22) comprises at least one variable capacitor (24).
- 20 3. A filter as claimed in claim 2, in which the capacitor assembly (22) comprises a series circuit of a fixed capacitor (26) and a variable capacitor (24).
4. A filter as claimed in claim 2 or 3, in which the capacitor assembly (22) comprises a capacitance diode (24) which is connected to a variable voltage (VT) via a high
- 25 impedance resistor R.
5. A filter as claimed in any of the preceding claims, in which the first and second microstrip sections (28, 30) each have the same length.

6. A filter as claimed in any of the preceding claims, in which in each case one of the microstrip sections (28, 30) of the resonators (16, 18) is coupled exclusively electromagnetically to in each case one of the microstrip sections of a further resonator (16, 18).

7. A filter as claimed in any of the preceding claims, in which between the input (12) and the output (14) there is a filter response of an order that corresponds to half the number of microstrip sections (28, 30) of the resonators (16, 18).

8. A filter as claimed in any of the preceding claims, in which the microstrip sections (28, 30) are attached to a front side of an insulating substrate, in which a conductive layer on the rear side is connected to ground,

wherein the first and second microstrip sections (28, 30) each have at their second end a through-connection (52) to the rear side of the substrate.

9. A filter as claimed in any of the preceding claims, in which the input (12) is coupled to a first resonator (16),

wherein the input is connected to a coupling microstrip (32) which runs at right angles to the microstrip sections (28, 30) of the resonators (16, 18),

and wherein the coupling microstrip (32) intersects the first microstrip section (28) of the first resonator (16).

10. A filter as claimed in any of claims 1 to 8, in which the input (12) is coupled to a first resonator (16),

wherein the input (12) is connected to a first coupling microstrip (42) which runs at right angles to the microstrip sections (28, 30) of the first resonator (16),

and wherein the first coupling microstrip (42) is connected to a second coupling microstrip (44) which runs in parallel next to the first microstrip section (28) of the first resonator (16) and is electromagnetically coupled to the latter.